

AMENDMENTS TO THE DRAWINGS

The Office Action objected to the drawings indicating that elements 13, 15 and H were not labeled with indicia indicative of their function. Applicant respectfully notes that the identified elements are labeled by reference numerals or reference letters which are described in the specification indicating the function of the identified structures. However, to advance prosecution, Applicant has provided indicia in replacement drawings submitted with this Amendment. Because the structures identified by reference numerals 13, 15 and reference letter H are too small to contain indicia within them, the indicia indicating indicative of their function is supplied with a lead line leading to the reference numeral or reference letter identifying the part.

The Office Action also objected to the drawings indicating that “the adapter being fixatable relative to the laser treatment device via a locking mechanism” was not shown. Applicant respectfully traverses the rejection. Reference to page 11, lines 5-8 of the application as filed (paragraph 0060 of the application as published) recites “A flange surface 23 is provided on the contact glass 12 near the upper side 21, on which flange surface the contact glass 12 is fixated in the holder H by clamps. The flange surface 23 represents a mounting means being adapted to the holder H which realizes a locking mechanism.” Because flange surface 23 and holder H are already depicted in the drawings and holder H realizes a locking mechanism, the claimed locking mechanism is already depicted in the drawings. Accordingly, Applicant respectfully requests that the Examiner withdraw the objection to the drawings.

REMARKS

Claims 22-43 are pending. By this Amendment, claims 23-24, 26-27 are cancelled, claims 22, 25, 28, 30-31, 34-36, 38-39, 41 and 43 are amended and new claims 44-47 are added.

Drawings

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claimed locking mechanism is already depicted in the drawings. Accordingly, Applicant respectfully requests that the Examiner withdraw the objection to the drawings.

Further, the locking mechanism is discussed in the application as published in the abstract and in paragraphs 0001, 0007, 0028, 0030 and 0060. Accordingly, no new matter has been added.

35 U.S.C. § 102

Lai '401

The Office Action rejected claims 22-34 and 37 under 35 U.S.C. § 102(b) as being anticipated by Lai '401. (U.S. Patent 6,210,410). Applicant respectfully traverses the rejection.

By this Amendment, Applicant has amended independent claim 22 to recite the limitations

a scanned region being part of the adapter input side, wherein the laser beam having been supplied to the scanned region is transmitted along the adapter beam path to the eye, and

a reference structure, the reference structure being located in the adapter beam path such that the reference structure can be illuminated by laser radiation being scanned over the scanned region; wherein the reference structure is adapted to absorb or reflect the laser radiation to make the reference structure optically detectable; and

wherein the adapter can be brought into contact with the eye to position the eye relative to the laser treatment device and wherein the reference structure comprises marking structures which encode information about the adapter.

These limitations are not disclosed or suggested by Lai, which according to the Office Action, teaches a contact glass with alignment markings which allow the laser surgical device to properly steer the beam. Accordingly, the Lai '401 does not disclose at least a scanned region being part of the adapter input side, wherein the laser beam having been supplied to the adapter and scanned over a region, is transmitted along the adapter beam path to the eye as now recited in claim 22. Further, the Lai '401 reference does not disclose or suggest "wherein the reference structure comprises marking structures which encode information about the adapter." Accordingly, claim 22 as amended is not anticipated or rendered obvious by Lai '401.

The Office Action indicates that claims 38 and 41 are not anticipated by Lai '401. Accordingly, independent claims 22, 38 and 41 should be patentable over Lai '401. The remaining claims in the application are dependent upon these three independent claims and should be patentable for at least the same reasons as the independent claims from which they depend.

Lai '632

The Office Action rejected claims 38, 39 and 41 under 35 U.S.C. § 102(b) as being anticipated by Lai '632. (U.S. Patent 5,549,632). The Office Action indicates that Lai '632 teaches an adapter which has a contact glass which can have alignment markings that allow the laser surgical device to properly steer the beam and includes a suction port.

By this Amendment, Applicant has amended claim 38 to recite the limitations  
a control unit controlling the laser to operate in an illuminating mode; and  
a detecting unit for optical detection of the reference structure illuminated by the  
laser beam emitted in the illuminating mode,

wherein the control unit, which receives output from the detecting unit and controls in the illuminating mode the beam deflecting unit to scan the laser beam over the scanned region such that the reference structure is illuminated by the laser beam and determines an actual position of the adapter on the basis of the actual scanning position of the scanned laser beam and the output of the detecting unit during the illuminating mode.

Lai '632 does not disclose or suggest a control unit controlling the laser to operate in an illuminated mode and a detecting unit for optical detection of the reference structure illuminated by the laser beam emitted in the illuminated mode. Further, Lai '632 does not disclose or suggest that the control unit receives output from the detecting unit and controls in the illuminating mode, the beam deflecting unit to scan the laser beam over the scanned region such that the reference structure is illuminated by the laser beam and determines an actual position of the adapter on the basis of the actual scanning position of the scan laser beam and the output of the detecting unit during the illumination mode. Accordingly, independent claim 38 is not anticipated by Lai '632 or rendered obvious by Lai '632. Claims 39-40 and new claims 44 and 46 depend from claim 38 and should be patentable for at least the same reasons as claim 38. Applicant respectfully requests that the Examiner withdraw the rejection.

Juhasz '571

The Office Action rejected claims 22-32, 37-39 and 41 under 35 U.S.C. § 102(c) as being anticipated by Juhasz et al. '571. (U.S. Patent 6,373,571). The Office Action states that Juhasz '571 teaches an adapter with reference markers which provides information about the position of the contact element. The Office Action further indicates that the adjusters can be actuated to

move the lens to provide alignment and that once alignment is achieved, the adjusters are rendered stationary which is considered to be locked as claimed. Applicant respectfully traverses the rejection.

With regard to amended claim 22, claim 22 recites an adapter with a reference structure which is to be illuminated by the treatment laser beam and which is “adapted to absorb or reflect the laser radiation to make the reference structure optically detectable.” Juhasz ‘571 does not disclose or suggest that the treatment laser beam of the device disclosed by the ‘571 reference illuminates the reference marks for identification. Instead, the ‘571 reference discloses, that the treatment laser beam is used to etch additional reference marks in the disposable contact lens, but that a separate “optical system 24” is used to measure displacement of the laser mark 50 from the reference mark 30. See ‘571 patent, Column 5, Lines 25-37.

The ‘571 reference makes no disclosure or suggestion that indicates that a “reference markers includes information on the adapter” as recited in amended claim 22.

Accordingly, at least these limitations of amended claim 22 are not disclosed or suggested by the ‘571 reference and amended claim 22 cannot be anticipated by ‘571 reference. Applicant respectfully requests that the Examiner withdraw the rejection.

35 U.S.C. § 103

Claims 35 and 36

The Office Action rejected claims 35 and 36 as being unpatentable over Lai ‘401 or Juhasz ‘571 in combination with Swinger and Grace.

Claim 35 as amended recites “The adapter as claimed in Claim 22, wherein the information encoded includes the desired shape defined by the adapter output side.”

Claim 36 recites “The adapter as claimed in Claim 22, wherein the information encoded includes refractive properties of the adapter output side.

Claims 38 and 41

The Office Action rejected claims 38-41 as being unpatentable over Lai ‘632 or Juhasz ‘571 in combination with Lai ‘401. Claims 38-41 as amended, are directed to a combination of an adapter and a laser treatment device. The claims, as amended, explicitly recite that the reference structure is detected under illumination of the laser treatment device which is operated in an illuminating mode. In this illuminating mode, the treatment laser beam is deflected to a large extent to direct it to the periphery of the adapter at which the reference structure is located. The limitations related to illuminating mode are not disclosed or suggested by the ‘571 reference. In particular, the ‘571 reference discloses “optical system 24” for detecting the reference structure. Accordingly, at least these limitations of claims 38 and 41 are not disclosed or suggested by the ‘571 reference.

Further, as discussed above, amended independent claims 38 and 41 recite limitations that are not disclosed or suggested by Lai ‘632 or Juhasz’s ‘571. Nor are these limitations disclosed or suggested by Lai ‘401. Accordingly, the combination of Lai ‘632 or Juhasz with Lai ‘401 cannot render obvious independent claims 38 and 41. Claims 39, 40 and new claims 44 and 46 depend from claim 38 and should be patentable for at least the same reasons as claim 38. Claims 42-43 and new claims 45 and 47 depend from claim 41 and should be patentable for at least the same reasons as claim 41.

Claims 42 and 43

The Office Action rejected claims 42 and 43 under 35 U.S.C. § 103(a) as being unpatentable over Lai '632 or Juhasz '571 in combination with Lai '401. Applicant respectfully traverses the rejection. Claims 42 and 43 are patentable at least by virtue of their dependency on claim 41 as discussed above.

Further, claim 42 recites:

a pulsed treatment laser for an ophthalmic procedure, wherein the object comprises the cornea, and the control unit controls the beam deflecting unit and the treatment laser such that the laser beam generates optical breakthroughs at predetermined locations in the cornea and, in doing so, considers the desired shape of the surface of the cornea, and wherein the desired shape is identified by said information.

Claim 43 recites:

wherein the laser is a pulsed treatment laser for an ophthalmic procedure and comprises a device for attenuating laser beam energy in the illuminating mode to avoid any machining effect to the adapter when optically detecting the reference structure.

These limitations are not disclosed or suggested by Lai '632, Juhasz's '571 or Lai '401. Accordingly, claims 42 and 43 should be patentable for at least these reasons. Applicant respectfully requests that the Examiner withdraw the rejection.



Amended Claim 22

As discussed above, amended claim 22 further recites the limitation “wherein the reference structure comprises marking structures which encode information about the adapter.” The Office Action cites the Grace et al. ‘750 reference with relation to these limitations. As Applicant has previously discussed, the Grace reference discloses the use of mechanical grooves at the lateral surface of a cylindrical portion of an adapter for coupling a laser light source to a fiber optic catheter. Thus, the Grace disclosure relates to a fiber optic coupler and not to an adapter contact lens of the sort used in ophthalmic surgery.

Further, even if one of ordinary skill in the art were still to consider the Grace ‘750 reference, the teaching derived from the reference is to provide grooves on the lateral surface of a cylindrical part to be sensed by mechanical feelers. Grace does not disclose or suggest a reference structure in the plane perpendicular to the incidence of laser radiation nor does it disclose or suggest optical detection of those reference structures. The Office Action does not make-out prima facie case of obviousness in this regard because it does not present any analysis as to why one of ordinary skill in the art would modify the circumferential grooves mechanically sensed disclose by Grace to be an optically detectable reference structure that is located on a plane substantially perpendicular to the laser application and sensed upon illumination by the laser.

Accordingly, with regard to independent claim 22, the cited prior art does not individually or in combination disclose or suggest a reference structure located in the adapter beam path such that the reference structure can be illuminated by laser radiation, scanned over the scanned region and wherein the reference structure is adapted to absorb or reflect laser

radiation to make the reference structure optically detectable. The cited prior art also does not disclose or suggest that the reference structure comprises marking structures which encode information about the adapter.

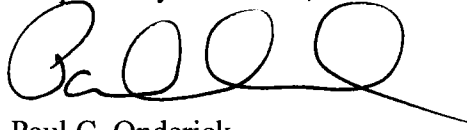
As discussed above, neither Lai '401 nor Juhasz's '571 disclose or suggest all of the limitations of amended claim 22 from which claims 35 and 36 now depend. The limitations that are not disclosed or suggested by Lai '401 or Juhasz's '571 are also not disclosed or suggested by Swinger and Grace as discussed above. Accordingly, claims 35 and 36 should be patentable over the cited combination of references. Applicant respectfully requests that the Examiner withdraw the rejection.

Further, as discussed above, amended independent claims 38 and 41 recite limitations that are not disclosed or suggested by Lai '632 or Juhasz's '571. Nor are these limitations disclosed or suggested by Lai '401. Accordingly, the combination of Lai or Juhasz's with Lai '401 cannot render obvious independent claims 38 and 41. Claims 39, 40 and new claims 44 and 46 depend from claim 38 and should be patentable for at least the same reasons as claim 38. Claims 42-43 and new claims 45 and 47 depend from claim 41 and should be patentable for at least the same reasons as claim 41.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

A handwritten signature in black ink, consisting of a series of loops and a long horizontal stroke at the end.

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